

Remarks

Claims 1-16, 27, and new claims 28-34 are pending in this application. Reconsideration and allowance are respectfully requested.

The Examiner issued a restriction requirement, and Applicants representative verbally elected to prosecute Group 1, claims 1-16 and 27, drawn to a composition. This verbal election is confirmed here without traverse, and claims 17-26 are cancelled.

Statement of Common Ownership

Applicants respectfully submit that the present invention and the subject matter of Small et al. contained in Published application 2004/0029495 (as well as published applications 2003/0162398 and 2004/0006924 having similar subject matter and also having as inventor Small et al) were commonly owned at the time the present invention was made. Applicants therefore respectfully request that the 103 rejections over Small, alone or in combination with other references, be reconsidered.

Rejections

Claims 1, 4, 5, 6, 8, 11, and 27 stand rejected as being obvious over US Patent 6,896,710. Applicants respectfully traverse. All of the rejected claims as amended depend directly or indirectly from independent claim 1. US Patent 6,896,710 states:

“Metallic or metal bearing coatings or films, as used in this invention, include metals or metalloids at zero valence state, and/or metal oxides, metal hydroxides, water-insoluble metal compounds in general, as well as mixtures thereof. ... The metal-bearing layer comprises at least one metal selected from the group consisting of Cu, Ti, Fe, Sn, Pb, Ta, Mo, Wo and Nb.”

See US Patent 6,896,710 at column 3, lines 36-45. The term metalloids is not defined, but in any case neither the stabilizer nor the catalyst in claim 1 are at the zero state. The Examiner states that the term “Wo” would be interpreted by one of skill in the art as “W” or tungsten. The reason given for adding the zero-valence-state metal is that, if the particle comprises metal that is also on the substrate, there is a reduced tendency for the metal on the substrate to dish during polishing. *See* US Patent 6,896,710 at column 3, lines 36-45.

Independent claim 1, as amended, now recites an abrasive having a surface on which there is at least one stabilizer comprising B, Al, P, or mixtures thereof. None of B, Al, or P are

taught or suggested in US Patent 6,896,710 as being useful as a stabilizer or for any other use on the particle. For this reason, the rejections over US Patent 6,896,710 alone should be withdrawn.

Claims 2, 3, 12, 13 and 16 stand rejected as being obvious over US Patent 5,958,288 in view of US Patent 6,896,710. Applicants respectfully traverse. The Examiner uses US Patent 5,958,288 to provide the motivation and disclosure to utilize water as a carrier and peroxide as an oxidizer. However, with respect to claim 1, US Patent 5,958,288 does not remedy the deficiency of US Patent 6,896,710 as described above pertaining to claim 1. First, while US Patent 5,958,288 discloses a large number of catalysts including Ag, Co, Cr, Cu, Fe, Mo, Mn, Nb, Ni, Os, Pd, Ru, Sn, Ti, and V at column 5 lines 33-34, they are all soluble salts AND not one of Al, P, and B recited in independent claim 1 are mentioned therein.

Independent claim 12 as amended recites that the stabilizer is bonded to the abrasive prior to or simultaneously with the bonding the catalyst to the abrasive. This amendment is supported for example in the specification at paragraph [0056], as well as in the Examples. The criticality of this feature is shown in the polishing data in the Examples. As an aside, the Examiner has opined that absent evidence to the contrary, there is no difference between stabilizers and catalysts. Comparative Example 5 had only a stabilizer on the abrasive, and the tungsten removal rate was only 427 A/min. In contrast, Example 6 had 10.1 grams ferric nitrate catalyst per 600 grams of abrasive, where the catalyst and stabilizer were added concurrently, and the tungsten removal rate was 3880 A/min.

The criticality of the order of addition of stabilizer and catalyst are shown in the next polishing Examples. Example 7 also had 10.1 grams ferric nitrate catalyst bonded to 600 grams of stabilized abrasive (the same quantity of catalyst as Example 6), where the stabilizer was bonded to the abrasive after the catalyst had been bonded to the abrasive, and the tungsten removal rate was only 2655 A/min. The tungsten removal rate was reduced by almost a third when stabilizer was added after the catalyst was bonded to the surface of the particle, as compared to the rate when a similar amount of catalyst was bonded to the particle at the same time that the stabilizer was being bonded to the particle. To show the effect of the order of addition more succinctly, Example 9 had only 3.06 grams ferric nitrate catalyst per 600 grams of abrasive, where the catalyst was bonded to the particle after the stabilizer had been bonded to the particle, and the tungsten removal rate was 2751 A/min. That is, a greater removal rate was achieved from 3.06 grams of ferric nitrate catalyst per 600 grams silica if the catalyst was added

after stabilizer, as opposed to the removal rate of a from 10.1 grams of catalyst per 600 grams silica which is bonded to the particle prior to adding the stabilizer. The criticality of the order of addition is not taught in any of the cited references.

As neither US Patent 5,958,288 nor US Patent 6,896,710 alone or in combination teach the limitations of independent claims 1 and 12, as amended, Applicants therefore respectfully request that the 103 rejections over these patents, alone or in combination, be reconsidered.

Additionally, and not pertaining to any pending rejections, Applicants would like to point out that none of the references (including the Small reference) discloses a stabilizer comprising B, as recited in claims 4, 6-10, 14-15, and 32-33; none of the references (including the Small reference) discloses a stabilizer comprising A1, as recited in claims 5, 11, 13, and 34; and none of the references (including the Small reference) discloses a stabilizer comprising P, as recited in claims 28, 29, and 31.

No fee is believed necessary relating to this response – however, if any additional fees are deemed necessary for any reason, the Office is authorized to charge them to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310.

Respectfully submitted,

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Christopher G. Hayden (Reg. No.) 44,750

Customer Number 009629
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 2004 202-739-3001 (facsimile)